Institutional Arrangements for Harmful Algal Bloom Monitoring and Management in Puget Sound: An Analysis of SoundToxins

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Outline

I. Background- existing institutions
II. Problem Statement- why evaluation?
III. Methods- social science
IV. Results
V. Discussion
   I. Recommendations
   II. Programmatic Restructure
II. Problem Statement

✧ Initial interviews with SoundToxins program managers indicate that the program had **mixed success**.

✧ Sampling records show that **participation had been low among some partners** for sample collection and/or data sharing.

✧ SoundToxins faces a problem of **collective action.** Often groups of rational actors will not act to achieve a common interest.  
  
Hypotheses:

✧ Each partner incurs different costs to participate and derives different benefits from the program.

✧ The information provided by SoundToxins is not sufficiently valuable to shellfish managers to alter their harvest closure decisions.

✧ The programmatic design of SoundToxins is unfit for the institutional setting within which it exists.
III. Methods:

This study employed a mixed methods social science approach including:

✧ A review of the literature on collective action, club theory, value of information in decision-making and institutional analysis and development (IAD).

✧ Elite interviewing techniques to collect data from program managers and participants, shellfish managers, and the research community.

✧ A focus group was to address data communication issues, a primary concern for program managers.
IV. Results: Costs and Benefits

Managers

- Costs
- Benefits
  - Time
  - Time
  - Time
  - Unseen yet

Citizen Volunteers

- Costs
- Benefits
  - Time
  - Part of a Group
  - Knowledge of local environ.
  - Educational opportunities
IV. Results: Value of Information

1. Does the presence of harmful species predict when a closure will occur?

2. Do you believe that cell counts provided by Sound-Toxins will help you to make better decisions?

3. Do you make different decisions when you have access to this information?

**DOH-** Yes, cell counts are helpful, the proof is in ORHAB.

**Commercial Growers-** Unsure if cell counts can predict toxic events. Want to avoid recalls, but feel HABs are currently well-managed.
IV. Results: IAD Analysis

| Setting                              | Complex physical setting, several species  
|                                     | Diverse stakeholders                       
|                                     | Existing institutions that are perceived as more than effective. |
| Transaction Costs                   | Lack of clearly established communication channels |
|                                     | Volunteer Coordination is time-consuming |
|                                     | Information Asymmetries exist             |
| Institutional Performance           | **Efficiency**- could be improved         |
|                                     | **Accountability**- low in lieu of formalized agreements |
|                                     | **Adaptability**- medium to high (detect new species) |
Several institutional differences exist between SoundToxins and ORHAB.

- Problem/setting complexity
- Stakeholder collaboration
- Effectiveness of existing institutions
- Secure source of funding
- Volunteer vs. professional samplers

Potentially the most critical difference is integration within existing institutions.
V. Discussion: Recommendations

✧ Support volunteers
✧ Streamline sampling process
✧ Formalize arrangements
✧ Work toward integration with DOH and other HAB monitoring networks
V. Discussion: Programmatic Restructuring

- Several changes since recommendations were made:
  - WA SeaGrant contracted to provide volunteer support
  - Sampling manual produced simplifying sampling technique—only harmful species
  - Action thresholds for reporting
  - Volunteers now sign a contract—formalizing agreements with program managers
  - Database has been upgraded and is now managed by NOAA—DOH has access and checks on a regular basis
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